

Working with trig and inverse trig functions

Trig Functions

Sin
Cos
Tan

functions

Inverse Trig Functions

\sin^{-1}
 \cos^{-1}
 \tan^{-1}

$$\sin = \frac{a}{c}$$

$$\cos = \frac{b}{c}$$

$$\tan = \frac{a}{b}$$

Input \rightarrow function \rightarrow Output

Angle Measure \rightarrow Trig function \rightarrow trig ratio,
like $\frac{a}{b}$

Angle measure \leftarrow Inverse Trig function \leftarrow trig ratio,
like $\frac{a}{b}$

Example

$$\sin(30^\circ) = \frac{1}{2} = \frac{a}{c}$$

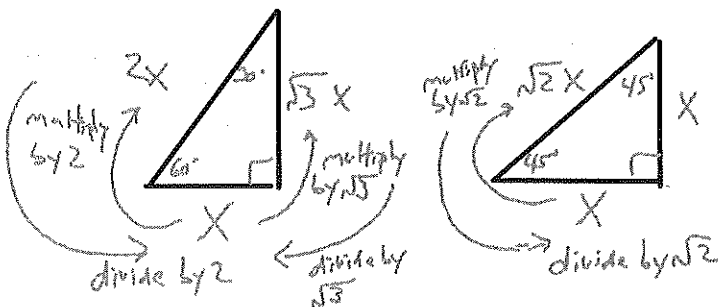
$$\sin(42^\circ) = 0.67 = \frac{a}{c}$$

$$\cos^{-1}(.53) = 58^\circ$$

$$\sin^{-1}(.80) = 53^\circ$$

$$\tan^{-1}(0.433) = 23^\circ$$

Special Triangles



30-60-90 if $x = 4$
 $2x = 8$
 $\sqrt{3}x = 8\sqrt{3}$

45-45-90
 if $x = 5$
 $\sqrt{2}x = 5\sqrt{2}$